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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,460	06/26/2003	Nayan H. Joshi	ATOTP0104US	3492

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EXAMINER

BAREFORD, KATHERINE A

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 12/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/606,460

Applicant(s)

JOSHI ET AL.

Examiner

Katherine A. Bareford

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-93 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 28-31, 36-42, 50, 51, 55-62 and 66-93 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

*Claims 1-27, 32-35, 43-49, 52-54, 63-65 are canceled*

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 26, 2006 has been entered.

The amendment filed with the RCE submission of October 26, 2006 has been received and entered. With the amendment, claims 1-27, 32-35, 43-49, 52-54, 63-65 remain canceled and claims 28-31, 36-42, 50-51, 55-62 and 66-93 remain pending for examination.

### *Claim Objections*

2. Claims 28, 36, 40, 55, 60, 66<sup>73</sup> and <sup>82</sup>~~73~~ are objected to because of the following informalities: (1) claim 36, line 12, "the at least one inhibitor" should be "the inhibitor" for proper antecedent basis. (2) claim 55, line 1, "wherein the" should be "wherein the inhibitor is the nitrogen containing heterocyclic compound and the" for proper antecedent basis. (3) claim 60, line 13, "the at least one inhibitor" should be "the inhibitor" for proper antecedent basis. (4) claim 66, line 1, "wherein the" should be

"wherein the inhibitor is the nitrogen containing heterocyclic compound and the" for proper antecedent basis. (5) claim 73, line 1, "wherein the" should be "wherein the inhibitor is the nitrogen containing heterocyclic compound and the" for proper antecedent basis. (6) claim 82, line 1, "wherein the" should be "wherein the inhibitor is the nitrogen containing heterocyclic compound and the" for proper antecedent basis.

Appropriate correction is required.

3. Objections (1) – (5) as listed above remain from the last Office Action of July 27, 2006, as the claims were not amended nor was the objection addressed in the October 26, 2006 amendment.

#### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 28, 36, 40, 50-51, 57-62, 68-71, 74-76, 78-81, 84-87 and 91-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiman (US 2580773) in view of Eckles (US 5405523).

Claims 28, 36, 40, 60: Heiman teaches a process for depositing zinc or a zinc alloy protective coating on aluminum or aluminum based alloy substrates. column 1, lines 1-20, column 2, lines 30-40 and column 6, lines 60-75. Heiman teaches immersing an aluminum or aluminum based alloy substrate in an aqueous acidic immersion plating solution. Column 2, lines 30-50 and column 3, line 45 through column 4, line 5 (the amount of acid added would make the bath acidic). The bath can contain zinc ions and fluoride ions. Column 3, lines 45-50. The bath can also contain nickel and/or cobalt ions. Column 2, lines 30-40 and column 6, lines 60-75. The solution can be free of cyanide ions, as no cyanide is described of being present. See column 3, lines 45-60 and column 6, lines 60-75. The substrate is immersed in the bath for a period of time to deposit the desired coating. Column 5, lines 50-60. Then the coated substrate is removed from the immersion plating. Column 5, lines 50-60. The bath can be used to perform immersion plating without electroplating or it can be used to perform electroplating. Column 3, lines 45-60, column 4, lines 15-20, and column 6, lines 70-75

(the bath can be used with or without current). The HF acid can be present in the solution in an amount of from 0.2 N to 2.5 N (1.0 N = 35.0 ml/l of HF of 48% acid).

Column 3 line 65 through column 4, line 10.

Claim 40: after the substrate is plated with the zinc material, other materials can be electrodeposited on the plated substrate. Column 7, lines 20-30.

Claim 51, 69, 76, 85: the solution can contain other metal ions, including iron or manganese. Column 2, lines 35-40.

Claim 59, 70, 74, 84: the solution can be free of aliphatic amines and aliphatic hydroxylamines, as none is described as being present. See column 3, lines 45-60 and column 6, lines 60-75.

Heiman teaches all the features of these claims except (1) the pH of the solution, (2) the presence of the inhibitor, (3) the precise amounts of each material in the bath (claims 36, 57, 58, 60, 78, 79, 91, 87), (4) the presence of complexing agents (claim 50, 61, 62, 71), (5) the inhibitor material.

However, Eckles teaches a method for depositing a zinc alloy protective coating on metal substrates. Column 1, lines 45-55. The method is by electroplating. Column 1, lines 45-55. The method includes immersing a metal substrate in an aqueous acid plating solution having a pH of from about 3.5 to about 6.2. Column 2, lines 40-46. The bath can comprise zinc ions, and nickel and/or cobalt ions. Column 2, lines 25-30 and column 4, lines 10-20. The bath also contains an "inhibitor" material containing nitrogen and/or sulfur atoms (the brightener). Column 2, line 46 through column 3, line

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8. The substrate is immersed for a period of time sufficient to deposit the coating.

column 6, lines 40-45. The substrate is removed from the bath, because the substrate must inherently be removed from the bath for use. The solution can be free of cyanide. Column 6, lines 25-40. The solution can contain 4--50 g/l of zinc ions. Column 4, lines 45-50. The solution can contain about 0.02--20 g/l alloying ions, such as nickel and/or cobalt. Column 4, lines 53-68. The solution can contain about 0.05--2 g/l of the nitrogen containing compound. Column 4, lines 5-10. The solution can contain acetate (one of applicant's claimed complexing agents). Column 4, lines 36-38. The nitrogen containing material can be a nitrogen containing heterocyclic compound. Column 2, lines 60-65.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Heiman to use the pH taught by Eckles in the bath with an expectation of desirable coating results, because Heiman teaches to provide an aqueous acid bath with zinc ions for immersion or electrolytic plating and that the acid in the bath can be 0.2 to 5 N, and Eckles teaches that in an aqueous acidic bath with zinc ions for electroplating the desirable pH is 3.5 to 6.2. One of ordinary skill in the art would optimize within that range to find the most desirable pH for the particular use desired. It would further have been obvious to modify Heiman to provide the brightener (inhibitor) material and complexing material in the bath as suggested by Eckles with an expectation of desirably bright coated material, because Heiman teaches to provide an aqueous acid bath with zinc ions for immersion or electrolytic plating,

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and Eckles teaches that in an aqueous acidic bath with zinc ions for electroplating it is desirable to provide a brightener and complexing material to provide a desirable appearance to the coating, and this desire for a bright appearance would be present for electroplating or immersion plating. It would further have been obvious to optimize the ranges of material taught by Heiman in view of Eckles to provide the optimum amounts of materials for the precise purpose of the article to be coated, because both references teach desirable ranges of amounts of materials to be used in the bath and to provide the optimum for the purpose being used.

7. Claims 29-31, 37-39, 41-42, 77 and 88-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiman in view of Eckles as applied to claims 28, 36, 40, 50-52, 54, 57-63, 65 and 68-71 above, and further in view of Haydu et al (US 5182006).

Heiman in view of Eckles teaches all the features of these claims except the precise cleaning process. Heiman teaches that prior to coating the article is first thoroughly degreased and cleaned so as to remove any grease, dirt or other undesirable foreign materials on the surface. Column 3, lines 5-10. The surface is also treated prior to coating with acid. Column 3, lines 15-25. Cleaning can be performed with an alkaline cleaner. Column 3, lines 40-45. After cleaning the article can be water rinsed. Column 3, lines 20-27.

Haydu teaches that it is conventional to prepare aluminum substrates for zincating by alkaline cleaning followed by a cold water rinse, then etching followed by



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a water rise, then desmutting followed by a rinse, and then zincate coating by an immersion zinc bath. Column 2, lines 5-20. Haydu also teaches that the zinc coating bath also functions as an etching solution. Column 32, lines 25-30. It is also known follow the first zincate coating with a second zincate coating. Column 2, lines 30-40. Cleaning can be done with an alkaline cleaner. Column 4, lines 1-10. Etching can be done with an acid etchant. Column 4, lines 10-20.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Heiman in view of Eckles to use the full cleaning process taught by Haydu in order to provide a fully prepared substrate for coating because Heiman in view of Eckles teaches a zincate plating process and Haydu teaches a cleaning process to fully prepare a substrate for zinc plating. The rinsing of the immersion plated article would be suggested as further treatment is to be provided.

8. Claims 55, 56, 66, 67, 72, 73, 82 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiman in view of Eckles as applied to claims 28, 36, 40, 50-52, 54, 57-63, 65 and 68-71 above, and further in view of McCoy et al (US 4356067).

Heiman in view of Eckles teaches all the features of these claims except the precise inhibitor (brightener) material.

McCoy teaches that a known brightener for use in a zinc plating solution is 2-mercaptobenzimidazole. Column 2, lines 1-10 and column 7, lines 30-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Heiman in view of Eckles to use a further known brightener as taught by McCoy in order to provide a desirably bright coating because Heiman in view of Eckles teaches a zincate plating process with brightener and McCoy teaches a known brightener for zinc plating.

9. Claims 28-31, 36-42, 50-51, 57-62, 68-71, 74-81, and 84-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 2000-256864 (hereinafter '864) in view of Haydu et al (US 5182006).

Claims 28, 36, 40, 60: '864 teaches a process for depositing zinc or a zinc alloy protective coating on aluminum or aluminum based alloy substrates. Abstract and paragraphs [005] – [0007] (note iron, nickel, copper, etc. can be used with the zinc). '864 teaches immersing an aluminum or aluminum based alloy substrate in an aqueous acidic immersion plating solution. Abstract and paragraph [0006]. The pH can be between 1 and 5, such as 4. Abstract, paragraph [0006], and paragraph [0034] (Table 1, example 6). The bath can contain zinc ions and fluoride ions. Abstract and paragraphs [0012] – [0013]. The bath can also contain nickel and/or cobalt ions. Paragraphs [0007] and [0016]. The solution can be free of cyanide ions, as no cyanide is described of being present. See paragraphs [0005] – [0019]. The substrate is immersed in the bath for a period of time to deposit the desired coating. Paragraph [0009]. Then the coated substrate is removed from the immersion plating. Paragraph [0009] (as it is only

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immersed for a certain amount of time). The amount of zinc ions can be 1-50 g/L.

Paragraph [0012]. The amount of nickel and/or cobalt ions can be an amount greater than 0.0001 g/L. Paragraph [0016]. The amount of fluoride ions can be 0.1 to 20 g/L.

Paragraph [0014].

Claims 29-31, 37-39, 41-42, 77, 88, 89, 90: before treatment, cleaning and alkali etching can be performed. Paragraph [0031].

Claim 40: after the substrate is plated with the zinc material, other materials can be electrodeposited on the plated substrate. Paragraph [0028].

Claims 50, 61, 62, 71, 75, 80, 93: complexing agents as defined in claim 62 can be present in the plating solution. Paragraph [0017]. The amount of complexing agent can be 1-50 g/L. Paragraph [0017].

Claim 51, 69, 76, 85: the solution can contain other metal ions, including iron or copper. Paragraph [0016].

Claim 57, 78: The amount of zinc ions can be 1-50 g/L. Paragraph [0012]. The amount of nickel and/or cobalt ions can be an amount greater than 0.0001 g/L. Paragraph [0016].

Claim 59, 70, 74, 84: the solution can be free of aliphatic amines and aliphatic hydroxylamines, as none is described as being present. Paragraphs [0005] – [0019].

Claim 68, 86, 92: the plating solution can have a pH of 4, for example. Abstract, paragraph [0006], and paragraph [0034] (Table 1, example 6).

Claim 87, 91: The amount of fluoride ions can be 0.1 to 20 g/L. Paragraph [0014].

'864 teaches all the features of these claims except (1) the presence of the inhibitor, (2) the precise amounts of each material in the bath (claims 36, 57, 58, 60, 78, 79, 91, 87), (3) the precise cleaning process (claim 29-31, 37-39, 41-42, 77, 88-90), (4) the precise inhibitor material.

Haydu teaches that it is conventional to prepare aluminum substrates for zincating (zinc immersion plating) by alkaline cleaning followed by a cold water rinse, then etching followed by a water rise, then desmutting followed by a rinse, and then zincate coating by an immersion zinc bath. Column 2, lines 5-20. Haydu also teaches that the zinc coating bath also functions as an etching solution. Column 32, lines 25-30. It is also known follow the first zincate coating with a second zincate coating. Column 2, lines 30-40. Cleaning can be done with an alkaline cleaner. Column 4, lines 1-10. Etching can be done with an acid or alkaline etchant. Column 4, lines 10-20. Haydu further teaches that when performing the zincate plating, it is desirable to use an additive that is a nitrogen containing heterocyclic compound, which is a known brightener additive for zinc electroplating solutions. Column 2, line 60 through column 3, line 35. The amount added of the additive is 0.1 to 5 % by volume. Column 3, lines 40-45. The use of the additive improves the smoothness and brightness of a later electroplated nickel overcoating. Column 7, lines 1-10. The use of additive also provides for a thinner applied zinc coating applied than without the additive. Column 7, lines 10-25. This indicates that the material acts as an "inhibitor" limiting the amount of coating applied.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '864 to use the full cleaning process taught by Haydu in order to provide a fully prepared substrate for coating because '864 teaches a zincate immersion plating process and Haydu teaches a cleaning process to fully prepare a substrate for immersion zinc plating. The rinsing of the immersion plated article would be suggested as further treatment is to be provided. It would further have been obvious to modify '864 to use the brightener (inhibitor) additive material suggested by Haydu in the bath of '864 with an expectation of desirably smoothed, thin and brightened resulting coated article, as '864 teaches a zincate plating system with various additives and Haydu teaches that it is further desirable to use a brightener additive of a nitrogen containing heterocyclic compound to provide a desirable thinned and brightened resultant coating. It further would have been obvious to modify '864 in view of Haydu to optimize within the ranges given of the various amounts of materials to find the optimum amounts of metal, fluoride and inhibitor materials as in the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed.Cir. 1990). As well "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See MPEP 2144.05.

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10. Claims 55, 56, 66, 67, 72, 73, 82 and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over '864 in view of Haydu as applied to claims 28-31, 36-42, 50-51, 57-62, 68-71, 74-81, and 84-93 above, and further in view of McCoy et al (US 4356067).

'864 in view of Haydu teaches all the features of these claims except the precise inhibitor (brightener) material.

McCoy teaches that a known brightener for use in an electroplating zinc plating solution is 2-mercaptobenzimidazole. Column 2, lines 1-10 and column 7, lines 30-40.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify '864 in view of Haydu to use a further known brightener as taught by McCoy in order to provide a desirably bright coating because '864 in view of Haydu teaches a zincate plating process with brightener used for electroplating and McCoy teaches a known brightener for zinc electroplating.

#### *Response to Amendment*

11. The declaration under 37 CFR 1.132 filed October 26, 2006 is insufficient to overcome the rejection of claims 28-31, 36-42, 50-51, 55-62 and 66-93 based upon the 35 USC 103 rejection using Heiman in view of Eckles as set forth in the last Office action because:

The declaration by Mr. Joshi is in the form of opinion evidence. As discussed in MPEP 716.01(c), opinion testimony is entitled to consideration and some weight. MPEP 716.01(c) provides that "In assessing the probative value of an expert opinion, the

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examiner must consider the nature of the matter sought to be established, the strength of any opposing evidence, the interest of the expert in the outcome of the case, and the presence or absence of factual support for the expert's opinion. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986)." In the present case the expert has an interest in the outcome of the case as the expert is one of the inventors of the present application. furthermore, factual support is not provided in the declaration, merely statement's of the experts opinion. As to the nature of the matter sought to be established and the evidence opposing Mr. Joshi's position, (a) Mr. Joshi has provided a position that the present invention is not intended to provide a final finish but rather is intended to protect the surface until a later coating is applied. (paragraphs 3-4). Moreover, Mr. Joshi takes the position that there is no reason that one would add a brightener to immersion plating solutions that replace alkaline zincate processes of the prior art, as the brightener as no function as the immersion plated layer is to be overplated (paragraphs 5-7, see also paragraphs 10-11). At paragraph 14, Mr. Joshi states that brighteners are not used in immersion plating. However, opposing this position is the factual evidence already of record in the case. Haydu et al (US 5182006) specifically teaches the desire in the zincating art to add a material known in the electroplating art as a "brightener" to a zincating bath (see column 2, lines 60-68 and column 3, lines 30-35). The use of this brightener is specifically taught as improving the smoothness and brightness of the nickel plating layer to be overplated over the immersion layer (see

column 7, lines 1-5). Moreover, it is taught to also have inhibiting properties by reducing the amount of material plated by the immersion plating process and to also produce a smooth and brighter zincated surface (column 7, lines 20-25). Thus, given the factual evidence of record, the Examiner cannot accept applicant's position that brighteners are not used in the immersion plating art and there are no reasons to use one. (b) Mr. Joshi has further provided a position that both the Heiman and Eckles patents are designed to prepare/produce a final metal finish layer on aluminum or aluminum alloys (paragraph 7). However, opposing this position is the factual evidence already of record in the case. Heiman, at column 1, lines 5-15, teaches that the provided immersion plating "may be used as a base for the subsequent electrodeposition of other metals." See also column 7, lines 20-30. Thus, given the factual evidence of record, the Examiner cannot accept applicant's position that the references are directed only to a final metal finish. (c) Mr. Joshi has taken the position that Heiman teaches the use of hydrofluoric acid in the plating bath in a minimum concentration of 0.2 N, which would give a bath with a pH of less than 1, and thus it would be no reason to increase the pH to the range claimed (paragraphs 8, 12). However, opposing this position is the factual evidence already of record in the case. Heiman, at column 2, lines 45-50, teaches the bath may use hydrofluoric acid or other sources of fluoride, such as sodium fluoride, ammonium fluoride, etc. Examples are also shown at column 4, lines 15-45. Thus, the pH of Heiman is not limited to the pH that would occur with the hydrofluoric acid examples. Mr. Joshi appears to have



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recognized this in paragraph 13, where it is noted that fluoride salts other than HF can be used, but argues that these salts in solution with zinc sulfate would still have a low pH. However, no specific pH is provided to indicate that it would be below that in Eckles. Moreover, the zinc cation source in Heiman does not have to be zinc sulfate. That is merely exemplary (see column 3, lines 50-51). Heiman provides that zinc or zinc alloys can be deposited using sources of the metals and hydrofluoric acid or other sources of fluoride, such as sodium fluoride, ammonium fluoride, etc. (column 2, lines 35-50). Thus, given the factual evidence of record, the Examiner cannot accept applicant's position that Heiman teaches away from the claimed pH range. (d) Mr. Joshi also takes the position that one of skill in the art would not convert an immersion plating bath into an electroplating bath for various reasons (paragraph 9). Mr. Joshi only provides opinion evidence for this position. Opposing this position is the factual evidence already of record in the case. Heiman, at column 3, lines 45-60, column 4, lines 15-20 and column 6, lines 70-75, teaches the bath may be used to perform immersion plating without electroplating or it can be used to perform electroplating. Thus, it is known in the art to use the same bath for either electroplating or immersion plating. Thus, given the factual evidence of record, the Examiner cannot accept applicant's position. (e) Mr. Joshi also takes the position that while the brightening agent of Eckles is "technically, a nitrogen-containing heterocycle, it is not an inhibitor as defined in the present application and would not work as an inhibitor" (paragraph 10). Opposing this position is the factual evidence already of record in the case. Eckles teaches a

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compound that reads of applicant's claimed "nitrogen-containing heterocycle" and has amounts overlapping with what is claimed (column 4, lines 5-10). Thus, since the material claimed in the amounts claimed is present, it would be understood to work as claimed. Thus, given the factual evidence of record, the Examiner cannot accept applicant's position. The Examiner notes that in section (a) above, the suggestion of using brighteners is discussed.

Mr. Joshi's opinion evidence has been considered, but as discussed above, the weight of the opposing evidence in the case, the interest of the expert in the outcome of the case and the absence of factual support for Mr. Joshi's opinion, result in the maintaining of the 35 USC 103 rejections above.

12. The Examiner also notes that the Declaration by Mr. Joshi refers to an Exhibit A in paragraph 1 (of a list of publications and patents), however, such an Exhibit was not received. As all the paper pages referred to on the cover sheet labeled Reply to Office Action Mailed 27 July 2006 (October 26, 2006) have been received, it appears that this Exhibit A was not sent.

### *Response to Arguments*

13. Applicant's arguments filed October 26, 2006 have been fully considered but they are not persuasive.

As to the 35 USC 103 rejections of the claims using Heiman and Eckles, applicant's arguments are directed to the reasons given in the declaration of Mr. Joshi. As discussed in paragraph 11 above, the declaration does not overcome the rejection of the claims.

The Examiner further notes a new 35 USC 103 rejection using Japan 2000-256864 in view of Haydu as discussed in the rejection above above.


### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine A. Bareford whose telephone number is (571) 272-1413. The examiner can normally be reached on M-F(6:00-3:30) with the First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and for After Final communications.

Other inquiries can be directed to the Tech Center 1700 telephone number at (571) 272-1700.

Furthermore, information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
KATHERINE BAREFORD  
PRIMARY EXAMINER